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ABSTRACT

Designing teleconference programs for the physician learner puts unique demands on the teleconferencing medium. Typically, physicians expect a 1-hour lecture presentation with high information density. To effectively present the medical content material in an audio medium, strategies which structure and organize the content material are necessary. When high information density programs are teleconferenced, modifications in the format of a typical educational teleconference are necessary. A format which previews, presents, and reviews the content material has proved effective in such programs on the South Dakota Medical Information Exchange (SDMIX) teleconferencing network. This format structures the presentation, making the organization of the content apparent to the physician learner. Visual techniques are employed in this organizational pattern to reinforce the structure and facilitate retention of the presentation content. The use of a stimulating title slide, a slide of the presenter, program outline, internal visual outlines, frequent changes in the visual elements, summary or transition visuals, color coding of visual and print materials, and humorous visuals have been found effective as means of presenting educational teleconference programs for physicians. (Author/LMM)

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GUIDELINES FOR EFFECTIVE TELECONFERENCE PRESENTATIONS IN CONTINUING MEDICAL EDUCATION

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Physician learners are accustomed to receiving knowledge in high information density lectures which are traditionally one hour in length. In order to take advantage of this familiar educational style, modifications of the typical lecture format are required to insure a successful teleconference.

Humanizing, encouraging participation, altering the message style, and encouraging feedback are recognized as essential elements of a teleconference for any audience (Monson, Parker, & Riccomini, 1977; Monson, 1978; Parker & Monson, 1980). Because of the high density of factual information which is expected by the physician learner in an educational presentation, additional techniques are required in a teleconference lecture for physicians to maximize the effectiveness of this medium.

A number of teleconferencing techniques have been utilized in the past to present information to physicians. Among these are sending advanced organizers, altering the format of a medical program, encouraging discussion through patient management exercises, and encouraging interaction through the use of a physician moderator. Presentations on the South Dakota Medical Information Exchange (SDMIX) teleconference network incorporate these techniques in the programming done for physicians. In addition, when designing their educational teleconferences for physicians, presenters on the SDMIX network are asked to organize their content and to utilize their media materials to "preview, present, and review" their program (Figure 1). By previewing the program at the start of the teleconference the presenter informs the participants of the scope of the presentation and describes how the content material of the teleconference is related to their current knowledge base. In the "present"

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EDUCATIONAL TELECONFERENCE FORMAT

I. PREVIEW
   - A. Welcome and Roll Call by Moderator
   - B. Relevance of Topic to Audience
   - C. Objectives of Presentation
   - D. Introduction of Instructor

II. PRESENT
   - A. Structure of Presentation
   - B. Participant Involvement
   - C. Presentation Style
   - D. Media Utilization

III. REVIEW
   - A. Moderator Thanks Instructor
   - B. Review of Key Points
   - C. Participant Feedback/Evaluation
   - D. Moderator Ends Teleconference

Figure 1. Format for education teleconference programs on the South Dakota Medical Information Exchange teleconferencing network. (Copyright 1981)

portion of the teleconference program, the content material is structured in such a way as to facilitate learning and to encourage direct learner participation. At the conclusion of this, the main body of the program, the key points of the presentation are again restated to stimulate retention. This comprises the "review" portion of the presentation.

Meaningful learning is acquired more readily and is retained for a longer period of time than learning which is perceived to be arbitrary or meaningless to the learner (Mauly, 1973; McKeachie, 1974). The use of the organizational format which previews, presents, and reviews the content emphasizes how the content material is important to the learner and how new content material is related to previously acquired knowledge. Attention to the organization of content material, and the extent to which the learner is aware of this organization, provides a context in which the content can be retained. The preview, present, review format for a teleconference emphasizes audience awareness of the organizational structure of the teleconference.

Preview

Welcome Letter. The preview portion of the teleconference actually begins before the teleconference presentation. Participants receive a welcome letter from the instructor, relating how the material which will be presented is relevant to their practice of medicine. The presenter has thereby furnished the participants with an overview of the presentation in the form of the welcome letter. In addition, an outline of the material to be presented is often attached to this letter so that the participant can begin to grasp the structure, organization, and depth of the presentation.

Roll Call, Relevance, and Objectives. The teleconference begins with a roll call of the participants by the moderator. During this period of time a title slide is projected which has the program title superimposed on an illustration or a key visual from the presentation. This title slide is used to visually attract attention and begin to focus the participants on the topic which will be discussed. After the moderator completes the roll call, he briefly describes the relevance of the teleconference content to heighten the level of participant interest and awareness. Next the objectives of the presentation are listed by the moderator, and an outline of the presentation is presented to further structure and organize the teleconference which will follow. This overview, which may be printed or visual, provides an advance framework for the perceptual organization and sets forth the most important terms and concepts that are to be presented to the learner. The overview of the presentation helps to facilitate learning and retention by the participants. The moderator uses the outline to explain what will be covered in the program, how much time will be spent in each area, and what types of interactions are planned. He also stresses what the participants should expect to gain from the program.

Introduction of the Instructor. Before the instructor begins the actual "present" portion of the program, the moderator gives a brief

biographical sketch of the presenter so that the audience realizes that the presenter possesses the credentials necessary to address the topic. During this period of time, a picture of the teleconference presenter is projected, thereby supplementing the auditory information with visual input to facilitate the audience's acceptance of the presenter.

Present

Structuring of the Presentation. As a presenter discusses the topic, the audience's attention should be directed to relevant visual material to enhance the auditory presentation. Typically, instructors present the first fifteen to twenty minutes of the teleconference, relying heavily upon media materials to structure and organize the content. In doing this, "internal visual outlines" are used to continue to focus the learner's attention on the organizational structure of the content material. Visual materials are changed frequently to keep the program stimulating and to maintain the learner's attention. In designing a teleconference presentation for high information density learners, such as physicians, visual materials which change at a frequency of approximately every two minutes aid in maintaining the audience's attention.

After this first period of content material is presented, the presenter may direct the audience's attention to the handouts for the next ten to twenty minutes for an experience such as a case study problem or a hypothetical scenario. Or the presenter may redirect the audience's attention to the slides, overhead transparencies, handout materials, or perhaps even to a video tape segment to clarify or expand upon the points which were previously made.

Color coding may be used as a design cue to structure and organize a presentation (Chute 1979, 1980). The use of color coded visuals allows the learner to keep pace with the developing content material, and identifies the location of the presentation within the outline. In addition to color coded visuals, print materials, such as handouts, may be color coded to correspond to the color of the visuals employed in sections of the program as an additional structuring element.

Participant Involvement. Presenters need to encourage participants to take an active role in the teleconference program. Interactive techniques and learner involvement are essential elements in the design of successful teleconferences (Monson, 1978; Parker & Monson, 1980). Physicians participating in continuing education via teleconference therefore need to be stimulated to become involved in the program through sharing their experiences and discussing their perceptions of the content material and its applicability to their practice.

Presenters on the SDMIX teleconferencing network typically employ "summary or transition visuals" during a teleconference to indicate a breaking point at which to pause and stimulate discussion. These summary or transition visuals typically hold little content per se but rather serve as a focal point around which to focus the participant's

discussion. While the summary or transition visual is being projected, individual participants are asked to share their reactions to the content material which was just presented. This activity not only increases interest and generates participation but it also reinforces the content and thereby increases the probability of retention by the learner. In addition, the transition visual may be used to focus the learner's attention on material which is about to be presented, thus heightening interest in the next portion of the program.

Presentation Style. It is important for the presenter to attempt to let his personality come through the audio channel of teleconferencing. Since the audience cannot see the presenter, points requiring emphasis need to be made with voice inflection, pauses in speech patterns, and changes in volume, rather than with gestures. Humor may also be helpful, if this is a component of the presenter's typical presentation style. However, he should not use humor if he would not normally use it in a face-to-face lecture presentation. It is very important for a teleconference presenter to be natural during his presentation.

Media Utilization. Presenters of educational teleconferences for physicians on the SDMIX network typically use a combination of visual materials to organize their presentations. Slides supplemented with handout packets are the most frequently used. Overhead transparencies are often employed when only a few visuals are required. Video cassettes or a sequence of slides have been used when topics require a motion component in the learning activity.

Media techniques used for teleconference programs on the SDMIX network have been described above in the context of other components of a successful teleconference. The visual techniques which have been found most beneficial for teleconferencing programs for physicians are: the use of a stimulating title slide, a slide of the presenter, program outline, internal visual outlines, frequent changes in the visual elements, summary or transition visuals, color coding of visual and print materials, and visuals which are humorous. These visual techniques assist the presenter in delivering a high information density presentation to physicians, using the medium of teleconferencing. They reinforce accepted adult learning principles as well as utilize and expand upon effective principles of teleconferencing.

Review

After the "preview" and "present" portions of the teleconference have been completed, the moderator typically thanks the instructor and reviews the major points in the program. In doing this, the moderator restates the objectives to reinforce the learning which has just taken place. The moderator next asks the participants to complete the feedback/evaluation form. This form allows participants to evaluate the program and requests participants to list additional programming which they feel would be appropriate for subsequent teleconference presentations. The moderator then ends the formal teleconference, but encourages

participants who have additional questions to remain "on-line". The moderator and presenter remain "on-line" until all participants have disconnected from the network, as additional questions or comments can often be forthcoming. Some participants, especially those new to teleconferenced learning, may be less reticent to ask questions after the formal portion of the teleconference is completed, and it is important to maintain an access link to the presenter for such participants.

Summary

When high information density programs are teleconferenced, such as to physicians, modifications are necessary in the format of a typical educational teleconference. In such programs on the SDMIX teleconferencing network, a format which previews, presents, and reviews the content material has been found to be effective. This format structures the presentation and makes the organization of the content apparent to the physician learner. Visual techniques are employed in this organizational pattern of the learning to reinforce the structure and to facilitate retention of the content presented. The use of a stimulating title slide, a slide of the presenter, program outline, internal visual outlines, frequent changes in the visual elements, summary or transition visuals, color coding of visual and print materials, and visuals which are humorous have been found to be effective means of presenting educational teleconference programs for physicians.

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